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AUTHORITY

AGO, d/a ltr, 29 apr 1980

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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGDA (M) (9 Sep 70)

FOR OT UT 702150

14 September 1970

SUBJECT: Operational Report - Lessons Learned, Headquarters, 299th Engineer Battalion, Period Ending 30 April 1970

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DEPARTMENT OF THE ARMY
Headquarters, 299th Engineer Battalion (Combat)
APO 96226

EGCD-OF

30 April 1970

SUBJECT: Operational Report - Lessons Learned, 299th Engineer Battalion
(C), Period Ending 30 April 1970, RCS CSFOR - 65 (R2)

Commanding Officer
937th Engineer Group
ATTN: EGC-OP
APO 96226

Commanding General
18th Engineer Brigade
ATTN: AVBC-C
APO 96377

Commanding General
United States Army, Vietnam
ATTN: AVHGC-DST
APO 96375

Commander In Chief
United States Army, Pacific
ATTN: GPQP-OT
APO 96558

Assistant Chief of Staff for Force Development
Department of the Army (ACSFOR, DA)
Washington, D. C. 20310

1. Operations: Significant Activities.

The 299th Engineer Battalion (C) provides combat and operational engineer support within Binh Dinh Province for the 173rd Airborne Brigade under Operation Lee, and the 4th Infantry Division under Operation Hines. On 14 February, Headquarters and Headquarters

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Company moved from Qui Nhon to the Phu Tai Valley. Battalion Headquarters (Forward), which had been established at An Khe on 10 December 1969, returned to the Battalion Headquarters at Phu Tai on 20 February. A total of 22 Dump Trucks from Company A, Company D, and the 15th Engineer Company (LE) were pooled on 22 February under the control of the 15th Engineer Company (LE) to support Company C in the road upgrade projects on Route LTL 3A and Route 299. These trucks were used to haul rock and cutback asphalt from Phu Tai to the work sites in the Bong Son area. On 25 April, these trucks were reallocated with seven (7) trucks from A and D Company being attached to Company C, and 15 trucks remaining under the control of the 15th Engineer Company (LE). On 26 February, 2 platoons of Company B were reconstituted and placed under the operational control of Headquarters Company. The disposition of battalion elements as of 30 April is given in Inclosure 1.

At the start of the reporting period, Company A was directed to complete the helicopter revetments on the Golf Course Heliport at An Khe. The project was part of Phase II of the Camp Radcliff Upgraded Defense System (CRUDS) and totalled 147 revetments of various types. Other battalion elements involved in the project were Company D, the heavy equipment platoon of Headquarters Company, and elements of the 15th Engineer Company (LE), all under the direction of the Battalion Headquarters (Forward). Company A had completed eight (8) gunship and four (4) utility helicopter revetments prior to the report period. Construction included site clearing, cut and fill, compaction, revetment construction and filling, asphalt coating (assisted by the 4th Engineer Battalion), and debris removal. By 13 March, A Company had completed its assignment: thirty-eight (38) gunship, twenty-five (25) utility, and ten (10) observation helicopter revetments. Maintenance of QL-19 did not receive the priority it had enjoyed the previous quarter since CRUDS projects used the majority of A Company's assets. However, when the Golf Course Heliport project drew to a close, road maintenance was resumed on the most seriously deteriorated portions of QL-19 in the An Khe Pass. Operations along QL-19 also included minor repair to damaged roadway caused by enemy mining incidents, filling pot holes, and the building of a bypass at bridge 19-18 when the bridge was damaged by a POL fire on 20 March. Debris from bridge 19-18 was cleared in preparation for its reconstruction. Work began on 4 March on six (6) observation towers to be erected at the An Khe Ammunition Storage Point and the 17th Field Hospital. These towers were of the same type that were erected around the perimeter of Camp Radcliff during the previous quarter and were prefabricated by Company B, 20th Engineer Battalion (C). At both sites, due to a lack of a crane, local national personnel were utilized to fill the towers by hand. On 9 March, work began to upgrade the An Khe Army Airfield Taxiway and parking apron to Type III C130 standards by removing the unsuitable M8A1 matting, correcting subgrade

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failures, and providing a suitable surface. The first priority was to provide twenty-two (22) fixed wing revetments adjacent to the existing parking apron. A new temporary barrel revetment was assembled and work parties dismantled four (4) old revetments and the existing matting. By the end of March, the area was ready to receive the fill required to develop the new 800' x 240' parking apron. When the fill operation was completed, work began on the preparation of table mix. After experimenting with several test pads, an asphalt table mix operation was begun at the North end of the airfield parallel taxiway. At the close of the period, spreading and compaction equipment had arrived on site, and asphalt surfacing had begun. Work began on the construction of a tank ford across the Song Ba River at An Khe on 31 March. This project was completed in one (1) week and consisted of shaping the access roads on each bank, hauling in blast rock for the river bed, leveling the roadway through an island in the middle of the river, and posting limit markers and signs for traffic. On 1 April, consolidation of 2 sets of Bailey Bridge in the An Khe area was begun. Company A relocated all the bridge from its old, unsatisfactory storage area to a new storage area where it was properly stored and inventoried. On successive days, two (2) over-size vehicles struck Williams Bridge at Camp Radcliff, damaging the upper transom at each end of this double-triple Bailey Bridge. Work began on 16 April to remove these transoms and the affected panels of the bridge. On 24 April, the third platoon of Company A was released for attachment to Company B, 815th Engineer Battalion (Construction). At the close of the period, this platoon was quartered at Engineer Hill, Pleiku, and was assigned work on culverts and headwalls along QL-19 west of the Maing Giang Pass.

The 614th Engineer Detachment (Power Distribution) remained attached to Company A throughout the reporting period. Their mission was to support the expansion of Camp Radcliff power distribution system. This crew provided power to the VIP Trailer Park, 8 buildings of the 4th Medical Battalion, the mess hall of the 2nd Battalion 8th Infantry, 25 buildings of the 2nd Battalion 35th Infantry, and continued improvements of the perimeter lighting system. This unit provided much support to 937th Engineer Group (C) units during the reporting period. Two (2) men were sent to the 815th Engineer Battalion (Construction) for one (1) week to work on the rock crusher at Wooley Bully II. Power was provided to the An Khe rock crusher, Company A, 20th Engineer Battalion (C), Company D, 299th Engineer Battalion motor pool, and perimeter lights were installed at the S-4 yard of the 299th Engineer Battalion (C) at Phu Tai.

Company B was reactivated on 26 February when the first squad of the first platoon was mustered. The remainder of the first platoon was

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operational by 12 March. On 18 March, second platoon began to form, and, as of 30 April, there are two (2) operational squads within this platoon. Both platoons are administratively attached to Headquarters Company, but the Company maintains its own maintenance section, tool room, and motor pool. On 3 March, Company B began work on the upgrade of the 937th Engineer Group perimeter and the 299th Engineer Battalion Headquarters' perimeter. The scope of the work included the burning of vegetation from the perimeter fence, installing tactical wire, and building fighting positions, bunkers, and revetments around buildings. Road maintenance was conducted along QL-19 throughout the reporting period. This included redecking bridges 19-11 and 19-14 and filling pot holes all along the route. The repair of bridges 19-5 and 19-10 began on 25 March. Two (2) coffer dams were constructed at bridge 19-5 and a bypass was constructed at bridge 19-10. Work on those bridges will continue into the next quarter. The minesweep for RMK continued to be conducted throughout the reporting period along QL-1. On 27 April, work began on the construction of a Radio Research site at Phu Cat Airbase. This involved leveling of a circular area 360 feet in diameter. The project will be complete by 7 May. Company B has been engaged in a civic action project at the Children's Rehabilitation Center in Qui Nhon. Work began on 15 April with the construction of a slide, a sand box, and a jungle gym. The entire project is to be completed by 31 May.

Company C was primarily engaged in support of the 173rd Airborne Brigade's Pacification Program and construction of MACV facilities in the vicinity of Bong Son. Construction of the MACV facility at De Duc, which included a 20' x 70' building and a septic tank, was completed on 5 March. The construction of a septic tank and shower facility at MACV Tan Quan and a septic tank at MACV Hoi An continued throughout the reporting period. Both of these projects will be completed by the end of May. On 6 February, construction began on the two (2) 10,000 gallon water storage tanks at LZ English. The new facility, consisting of the well (drilled by the 815th Engineer Battalion Well Drilling Detachment), the two (2) water tanks, and three (3) water distribution points, was completed on 24 March. Work began on 12 February to upgrade Route 299, a 10 KM secondary road from QL-1 to Phu Tu. One (1) platoon from Company C moved from LZ North English to LZ Salom where a base camp was established for work on Route 299. By 30 April, Route 299 was passable in its entire length and all culverts were installed except for two (2) large Texas Culverts (concrete ford with culvert) which were under construction. With the completion of the major culvert work on Route 299, effort was diverted to Route 299C, a North-South secondary road 3 KM long which connects Route 299 with Route 305. Here, too, the initial effort was placed on the installation of culverts prior to hauling fill to upgrade the road. On 23 March, security requirements at LZ Pony necessitated the relocation of one platoon of Company C to that camp, since all

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other US Forces had vacated the LZ. At LZ Pony, this platoon provided night and day security for the second platoon of the 15th Engineer Company (LE) which was working on LTL 3A. By the end of the reporting period, the work on LTL 3A was complete, at which time the platoon from Company C returned to LZ North English. Work began on 1 April to consolidate 2 sets of Bailey Bridge at LZ North English. This involved moving Bailey Bridge parts from LZ Uplift to LZ North English where the parts were stored and inventoried. All excess parts were sent to the 15th Engineer Company (LE) to be stored in the bridge park in Phu Tai. On 20 April, Company C began work on the major upgrade of QL-1. Work to this date has involved only the cleaning out of culverts with the major portion of the work to be accomplished in the next two quarters.

Company D was faced with an extensive cantonment upgrade after relocation within Camp Radcliff. Billets had to be restored, internal drainage provided, motor pool area upgraded, and defensive positions constructed. At the start of the reporting period, Company D was in the process of completing seven (7) perimeter bunkers assigned under the CRUDS directive. Twenty additional bunkers were added to these seven, bringing the total number of bunkers erected to fifty-seven (57). The final bunker was completed on 28 February. On 10 February, with the aid of the 15th Engineer Company (LE), work began on extensive earth moving operations at Camp Radcliff's Golf Course Heliport in preparation for construction of thirty-two (32) utility, twenty-eight (28) observation, and fourteen (14) maintenance revetments. All revetments are now complete except for ten (10) maintenance revetments that are awaiting completion of two (2) hangars by Company A, 20th Engineer Battalion (C). On 24 February, construction of twenty-four (24) vehicle gates for the perimeter of Camp Radcliff was begun. The gates were partially prefabricated by the 15th Engineer Company (LE) and Headquarters Company and then installed by Company D. This project was completed on 15 April. On 7 March, the construction of three (3) ASP berms began and the initial clearing of the destroyed span of bridge 19-25 was undertaken. The ASP berms were completed on 4 April and the restoration of bridge 19-25 will be completed next reporting period. On 27 March, Company D began the construction layout of a 75 ton per hour rock crusher site at An Khe. Construction of the 18' headwall and the 10' x 90' concrete slab is complete, and construction of the shop office, maintenance bays, and the rock chute was under way by 30 April. One (1) platoon has been engaged in a combat operational support mission with 3/506th Airborne Infantry since 17 April. This support will continue into the next reporting period.

The 15th Engineer Company (LE) provided general equipment support to the battalion throughout the reporting period. One (1) platoon, under the control of Company C, completed the upgrading and resurfacing of 15 KM of LTL 3A, and restored the access road to the Kin Son bridge.

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Second platoon of the 553rd Float Bridge Company, attached to the 15th Engineer Company (LE), was engaged in consolidating, classifying and storing Bailey Bridge components taken from LZ North English, Pleiku, and the 84th Engineer Battalion (Construction) at Qui Nhon. They also hauled asphalt for the LTL 3A project at LZ Pony. The quarry section moved from Webb Quarry at Pleiku, to the new quarry site at An Khe, where they will begin producing rock in early May. A platoon size force of heavy equipment and operators was still deployed at An Khe throughout the reporting period to support Company A and Company D in the projects just described. Throughout the reporting period, company personnel not on equipment job assignments have been utilized in cantonment area improvement projects. Three (3) guard towers were relocated and 25 ea two-man fighting positions were reconstructed. Other improvements, such as building repairs and drainage, were also undertaken.

The Headquarters Company Heavy Equipment platoon supported the battalion's operations throughout the reporting period. This included support to Company A and Company D at the An Khe Army Airfield, the rock crusher, and the Golf Course Helipart revetments. Support was also rendered to Company C on Route 299 and Route LTL 3A, and to Company B at the Phu Cat Airbase Radio Research site.

2. Lessons Learned: Commander's Observations, Evaluations, and Recommendations.

a. Personnel.

(1) Personnel Turbulence.

(a) OBSERVATION: The personnel information roster and MOS information roster are the main tools for maintaining accurate control of assigning personnel. In the past, these rosters were updated once each month.

(b) EVALUATION: By posting these rosters on a day to day basis, the result is an accurate running account of personnel assigned and is an excellent management tool to single out the overage and shortage of any given MOS and provide daily guidance in assignment of new personnel.

(c) RECOMMENDATION: That units undergoing excessive personnel turbulence utilize this method to facilitate the placement of personnel.

(2) Personnel Actions Book.

(a) OBSERVATION: Personnel actions were not being accomplished in a timely or accurate manner.

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(b) EVALUATION: Changes to correspondence formats, administrative procedures, reports schedules, and rules governing personnel actions came frequently. These were difficult to assimilate and keep current. The company clerk began a reference binder into which he placed changes to formats and procedures, extracts of pertinent references, and current personnel announcements and reports rosters.

(c) RECOMMENDATION: When administrative procedures change frequently, a reference book established by the administration specialist can help in keeping the section operating effectively to better serve the men of the unit.

b. Intelligence. None.

c. Operations.

(1) Bridge Telltales.

(a) OBSERVATION: A bridge telltale suspended from an overhead cable was whipped about in a strong wind, thereby nullifying its use as an effective gauge of overhead clearance. Also, when clearance is exceeded, the sign is battered and may have to be replaced frequently.

(b) EVALUATION: The light-weight wooden telltale presented a high surface area to the wind. The sign had to have holes drilled into the face to vent some of the passing air. The chain suspension had to be stabilized by welding the links to restrict swinging in the wind. Since the sign is susceptible to damage if struck often, it had to be raised to the precise height of the clearance. Chains were then added to three inches below this height to provide the safety margin required.

(c) RECOMMENDATION: That units needing telltales utilize this method of construction.

(2) Bearing Plate for Guard Towers.

(a) OBSERVATION: A guard tower had to be placed in an area with a high water table and relatively unstable soil.

(b) EVALUATION: The weight of the tower, in excess of 10,000 pounds, was designed to rest on four concrete footers beneath the tower logs. By excavating the entire area and placing salvaged M8A1 matting interlocked to form a 15' x 16' floor, the tower weight was

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distributed over a surface area ten times as great. Three foot of fill was placed and compacted above this floor, and the footers were excavated as usual. The reinforcing bar was welded to the exposed portion of the matting to tie the concrete footing to the floor.

(c) RECOMMENDATION: That units utilize this method in situations where the weight of a structure must be distributed over a wider area.

(3) Installation of Multiple Culverts.

(a) OBSERVATION: Construction of a multiple culvert system required that the culvert be rigidly held in place while fill is being placed.

(b) EVALUATION: The greatest problem is preventing a lateral shift of the tubes. If the culvert could be connected so as to maintain a constant separation, each would lend stability to the other thus avoiding any shift as fill is placed. First, the desired spacing must be determined. Then engineer pickets (U-shape) can be cut to this desired length. With a torch, a hole is cut in each end of the pickets large enough to accommodate a standard culvert bolt. When the culverts are emplaced, the engineer pickets are placed as dividers between adjacent tubes and are bolted to the flanges of the culverts at 24 to 36 inch intervals. This technique will minimize lateral shifting of the tubes.

(c) RECOMMENDATION: That units experiencing difficulties in maintaining proper distance between culvert tubes utilize this method.

(4) Improvised Towing Eye for Sheepsfoot Roller.

(a) OBSERVATION: The existing eye on a sheepsfoot roller limits the types of prime movers that can pull it as well as hampers removal of the roller from the prime mover. The standard eye is incompatible with the eye on both 5 ton and 10 ton tractors. In addition, the constant back and forth movement of the connection tends to break existing eyes after extended use.

(b) EVALUATION: A modified eye from a standard trailer is compatible with both 5 ton and 10 ton tractors and 290M tractors and dozers. By affixing a trailer eye to the sheepsfoot and providing a buffer set up to reduce the buffeting, which causes so many eye failures, a much more durable and flexible roller connection can be made. The eye can be made from a standard trailer eye and a front coil spring from a

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3/4 ton truck. Cut the spring in half and place one piece on the trailer eye shaft immediately behind the eye. Insert the shaft into the sheepsfoot tongue and slide the other piece of spring into the shaft in front of the retaining nut. Place an end plate as a spring retainer in front of the nut. This buffered eye will provide a more durable connection which will permit easy removal from a variety of prime movers.

(c) RECOMMENDATION: That units utilizing sheepsfoot rollers install this modification so as to increase the versatility of their equipment.

(5) Expedient Fork Lift.

(a) OBSERVATION: During the construction of aircraft revetments, there was a constant need for a fork lift to move material.

(b) EVALUATION: A bucket loader, equipped with a removable set of fork teeth can load materials at a greatly increased rate. With this accessory, there is a lot less damage to the materials being handled. (See inclosure 2)

(c) RECOMMENDATION: That units equipped with a bucket loader should have their welders fabricate this accessory.

(6) Vehicle Gate Hinges.

(a) OBSERVATION: While constructing vehicle gates for Camp Radcliff, many problems were encountered in finding a suitable type hinge which would be durable enough for wear, and at the same time, have the needed qualities to swing the gates open and closed effectively.

(b) EVALUATION: An effective design can be accomplished by utilizing #4 rebar, welded on the stationary poles, and then complete the construction by welding 1/2" pipe on the moving structures to match the alignment of the #4 rebar welded to the stationary poles. (See Inclosure 3.)

(c) RECOMMENDATION: That units constructing gates utilize this method to fabricate hinges.

(7) Water Distributor.

(a) OBSERVATION: Water was required for compaction and a water distributor was not available.

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(b) EVALUATION: An expedient distributor had to be developed. A spray bar was fashioned out of $1\frac{1}{2}$ " pipe with $3/16$ " holes drilled along one side. This was attached to a 600 gallon water trailer which was available. A flexible hose was provided and the entire rig was replenished at a nearby stream with a submersible pump driven by an air compressor.

(c) RECOMMENDATION: Equipment and materials often available should be combined to make expedient pieces of equipment required for accomplishment of the mission.

(8) Spray Bars on Bituminous Distributors.

(a) OBSERVATION: A considerable amount of lost time was incurred as a result of failure of the spray bars on the bituminous distributors.

(b) EVALUATION: Breakdowns were caused thru breakage and gasket failures at the major ball joints. To prevent these, extra welded angle iron supports and suspension chains were added to critical areas of the spray bars. Non-available gaskets were replaced by wrapping twine around the ball joints.

(c) RECOMMENDATION: That units experiencing difficulties with spray bars utilize those methods for hasty repair.

(9) Better Fuel Supplies thru Improvisation.

(a) OBSERVATION: During the paving of LTL 3A, it was noted that there was a lack of fuel capabilities in that one (1) 1,200 gallon fuel truck could not provide enough fuel for fueling equipment and supplying fuel to use for cutback in the mixing of RC 800 and diesel.

(b) EVALUATION: A better fuel capability needed to be devised. With the use of a 10-ton attachment trailer and a 1500 gallon Navy cube and two (2) 660 gallon gas pods, a mobile fuel point was constructed thus eliminating the problem.

(c) RECOMMENDATION: That units requiring additional fuel capability use this method.

(10) Patching Metal Tanks or Sheet Metal Roofing.

(a) OBSERVATION: Tar and other sealing compounds have proven to be inadequate for providing a waterproof seal for tanks or

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or sheet metal with small holes.

(b) EVALUATION: Styrofoam packing material, dissolved in gasoline, which is subsequently burned off, provided a completely water-proof seal superior to other sealing compounds. Obtain styrofoam packing material from fuse packing. Four sheets 6" x 6" x 2" saturated with one and one-half cups of gasoline provided one quart of sealing compound. This compound is placed in the hole to be patched. The compound is then ignited so that the gasoline burns off leaving a hard, watertight styrofoam seal.

(c) RECOMMENDATION: That units requiring sealing compound utilize this method,

(11) Outdoor Urinals.

(a) OBSERVATION: A sanitary urinal was required that would provide for proper drainage while denying insects access to the site.

(b) EVALUATION: Place a 55 gallon drum in the ground with a pipe installed two-thirds of the way to the top of the drum. This pipe should drain to the side and have a down spout at the center of the drum. The drum is filled with water to the bottom of the spout and an oil slick is added to a depth equal to the diameter of the pipe. The urine breaks the oil slick and is contained and drained beneath it. The oil seals the surface and prevents odors and the attraction of insects. (See Inclosure 4.)

(c) RECOMMENDATION: That units use this method to construct urinals.

d. Organization. None.

e. Training. None.

f. Logistics. None.

g. Communications. None.

h. Material.

(1) Bailey Bridge Storage.

(a) OBSERVATION: Small bolts, pins, and clamps for Bailey Bridge sets are often stored in 55 gallon drums which become too

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heavy for easy handling and inventory once they are filled.

(b) EVALUATION: The canvas bags designed for such storage never seem to be available in sufficient quantities. By substituting sandbags for the canvas type, these parts could be stored in standard quantities per bag, tagged for identification, and soaked in oil for preservation. Handling is easier, and accountability is maintained.

(c) RECOMMENDATION: Small storage containers should be used for Bailey Bridge components to assure ease of handling and proper accountability.

(2) Salvaging Bailey Bridge Steel.

(a) OBSERVATION: Often the need arises for salvagable steel to be used on a project.

(b) EVALUATION: Bailey Bridge steel, if usable as designed, makes an excellent source of steel for use in railings, providing a dead-man, and other similar projects.

(c) RECOMMENDATION: Bailey Bridge steel should be recovered whenever possible for conversion when necessary to other expedient uses.

(3) Sledge Hammer Handles.

(a) OBSERVATION: Replacement sledge hammer handles break very easily.

(b) EVALUATION: The original handle for sledge hammers is of good quality; however, replacement handles are usually made of inferior short-grained wood which do not last as long as the original handles provided. A piece of metal pipe, welded to the hammer head, provides a sturdy substitute handle. The handle must be wrapped with friction tape for safe handling, and it lasts longer than wooden replacement handles.

(c) RECOMMENDATION: Stronger replacement handles must be provided for sledge hammers. The current type of handles are too fragile and do not last long enough.

4 inclosures
as


JOSEPH P. FRANKLIN
LTC, CE
12 Commanding

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EGC-OP (30 April 1970) 1st Ind
SUBJECT: Operational Report - Lessons Learned, 299th Engineer Battalion
(Combat), Period Ending 30 April 1970.

DA, HEADQUARTERS, 937TH ENGINEER GROUP (COMBAT), APO 96226, 25 May 1970

TO: Commanding General, 18th Engineer Brigade, ATTN: AVBC-C, APO 96337

TO: Assistant Chief of Staff for Force Development, Department of the Army,
ATTN: ACSFOR-DA, Washington, D.C., 20310

1. In accordance with 18th Engineer Brigade Regulation 525-15, the ORLL from the 299th Engineer Battalion (Combat) for the period ending 30 April 1970 is hereby forwarded with the following comments.

a. Part II, Lessons Learned

(1) Para c (5), Expedient Fork Lift. The bucket loader is frequently modified by Engineer units to be used as a fork lift. The modification recommended by the 299th has worked particularly well.

(2) Para c (6), Vehicle Gate Hinges. This observation is not unique to construction practice and in fact is a fairly common hinge.

(3) Para c (7), Water Distributor. Water distribution has been a constant problem with the large amount of LOC work being accomplished in the Group. Many units have made expedient distributors from anything and everything available. This observation is a common construction practice.

(4) Para c (9), Better Fuel Supplies. This observation is not new or unique to construction operations and is a common practice.

(5) Para c (10), Patching Metal Tanks or Sheet Metal Roofing. Sealing compound has always been in short supply if available at all. This Headquarters feels this is a particularly useful observation and has disseminated the information to all subordinate units.

(6) Para c (11), Outdoor Urinals. The method observed is a common construction practice for urinals.

(7) Para h (2), Salvaging Bailey Bridge Steel. The recommendation applies to unservicable Bailey Bridge steel only.

2. The report is considered to be an accurate representation of the battalions activities for the period.

FOR THE COMMANDER:



DON C. BENTON, III
CPT, CE
Adjutant

AVBC-OS (30 Apr 70) 2nd Ind

SUBJECT: Operational Report Lessons Learned, 299th Engineer Battalion
(Combat) for the period ending 30 April 1970

DA, HEADQUARTERS, 18TH ENGINEER BRIGADE, APO 96377 24 JUN 1970


TO: Commanding General, U.S. Army Vietnam, ATTN: AVHGC-DST, APO 96375

1. This Headquarters has reviewed the Operational Report - Lessons Learned for the 299th Engineer Battalion (Combat) as indorsed by the 937th Engineer Group (Combat). The report is considered to be an accurate account of the Battalion's activities during the reporting period.

2. This Headquarters concurs with the observations and recommendations of the Battalion and Group Commanders with the following comments added:

a. Reference: Section 2, item c(2). Bearing Plate for Guard Towers. Nonconcur. MSA1 matting is not sufficiently rigid to maintain its configuration under continued loading in such a soil. In addition ground water may cause rusting of the matting and its subsequent failure at points of column loads. A better solution for large towers would be to use spread footers on a concrete grade beam.

b. Reference: Section 2, item c(3). Installation of Multiple Culvert. Nonconcur. Lateral shifting of multiple barrel culverts indicates poor back fill practices. If the culvert backfill is properly placed, there will be no lateral shift. Dividers are poor practice and prohibit proper compaction.


H.C. SCHRADER
Brigadier General, USA
Commanding

CF:

CO, 937th Engr Gp

CO, 299th Engr Gp


AVHGC-DST (30 Apr 70) 3d Ind
SUBJECT: Operational Report - Lessons Learned, 299th Engineer Battalion
(C), Period Ending 30 April 1970, RCS CSFOR - 65 (R2)

Headquarters, United States Army, Vietnam, APO San Francisco 96375 8 JUL 1970

TO: Commander in Chief, United States Army, Pacific, ATTN: GPDP-DT,
APO 96558

This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 30 April 1970 from Headquarters, 299th Engineer Battalion and concurs with the comments of indorsing headquarters.

FOR THE COMMANDER:


D. J. Winter
CPT, AGC
Assistant Adjutant General

CF:
299th Engr Bn
HQ, 18th Engr Bde

GPOF-DT (30 Apr 70) 4th Ind

SUBJECT: Operational Report of HQ, 299th Engineer Battalion (Const)
for Period Ending 30 April 1970, RCS CSFOR-65 (R2)

HQ, US Army, Pacific, APO San Francisco 96558

24 JUL 70

TO: Assistant Chief of Staff for Force Development, Department of the
Army, Washington, D. C. 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:



L.M. OZARK
CPT, AGC
Asst AG

DEPARTMENT OF THE ARMY
Headquarters, 299th Engineer Battalion (Combat)
APO 96226

EGCD-OP

30 April 1970

SUBJECT: Disposition of Battalion Elements, 30 April 1970

The disposition of the 299th Engineer Battalion (Combat) as of 30 April 1970 is given below:

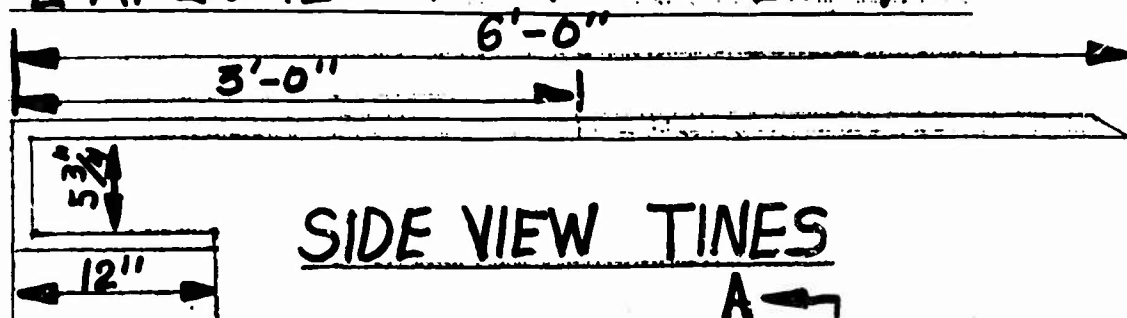
Battalion Headquarters	Phu Tai	BR 999245
Headquarters Company	Phu Tai	BR 999245
Company A	An Khe	BR 443442
Company B (See Note 1)	Phu Tai	BR 999245
Company C	LZ North English	BS 884056
Company D	An Khe	BR 468468
15th Engineer Company (Light Equipment)	Phu Tai	CR 008185
2nd Platoon, 553rd Engineer Company (Float Bridge) (See Note 2)	Phu Tai	CR 008185
614th Engineer Detachment (Power Distribution) (See Note 3)	An Khe	BR 452448

Note 1: Co B was reactivated on 26 Feb 1970.

Note 2: Attached to the 15th Engineer Company (Light Equipment).

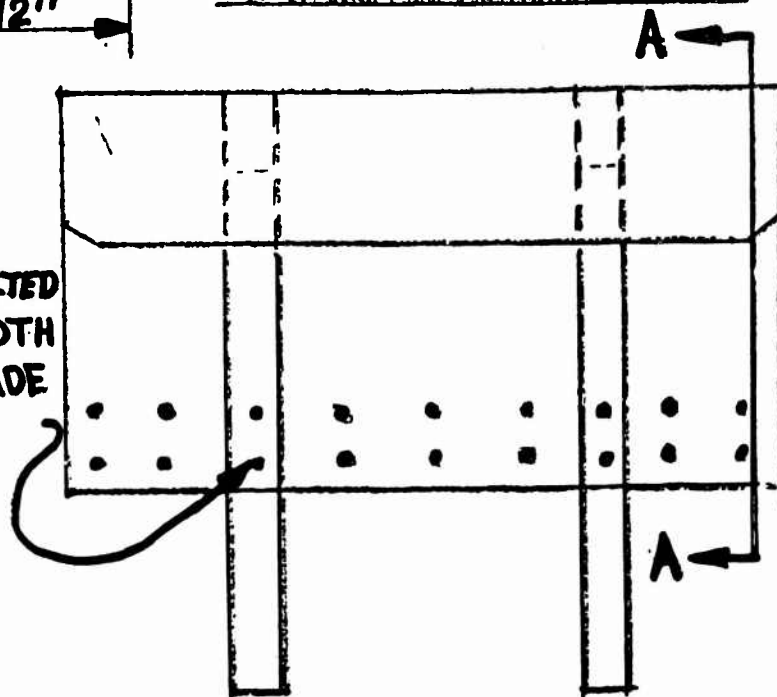
Note 3: Attached to Company A.

EXPEDIENT FORKLIFT

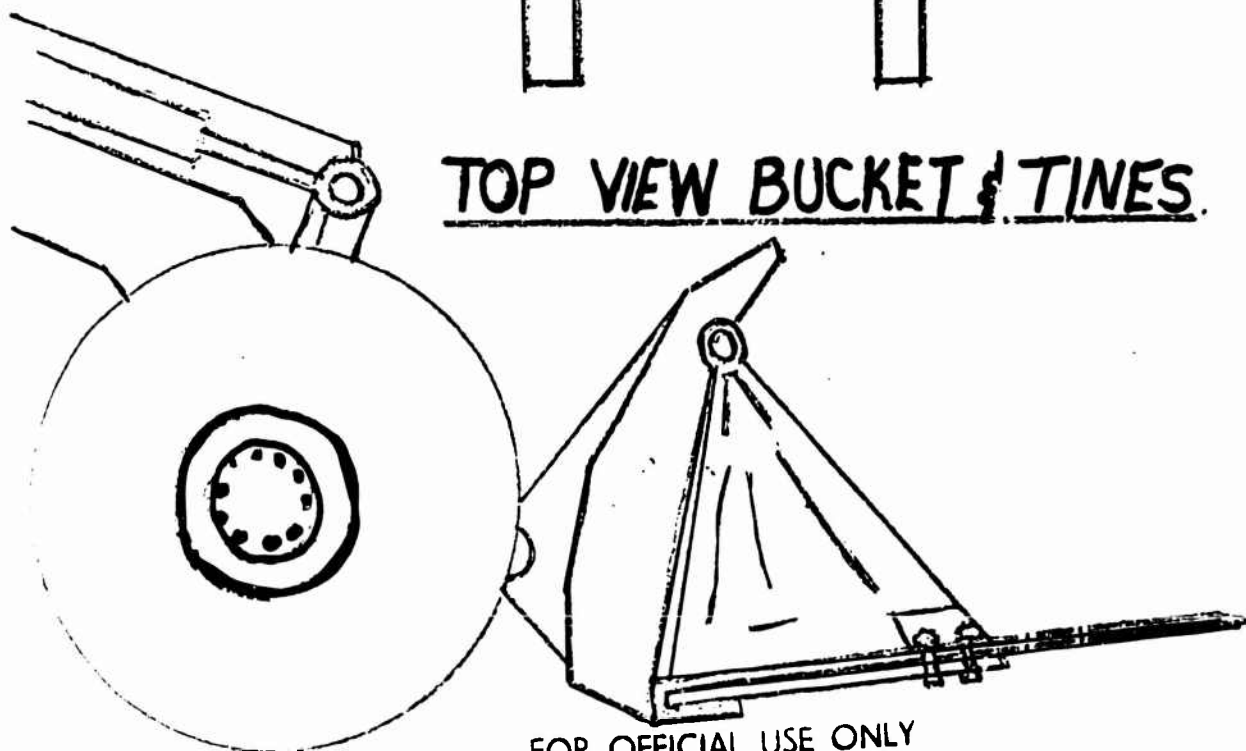


SIDE VIEW TINES

TINES ARE BOLTED
AT THIRD TOOTH
HOLE FROM SIDE
OF BUCKET.



TOP VIEW BUCKET & TINES



FOR OFFICIAL USE ONLY

SECTION AA BUCKET AND TINES

NOTE: MATERIALS USED: 1 EA D-7 CUTTING EDGE. CUT END
TO END USING BOLT HOLES AS GUIDES. 4 EA BOLTS.

VEHICLE GATES (HINGES)

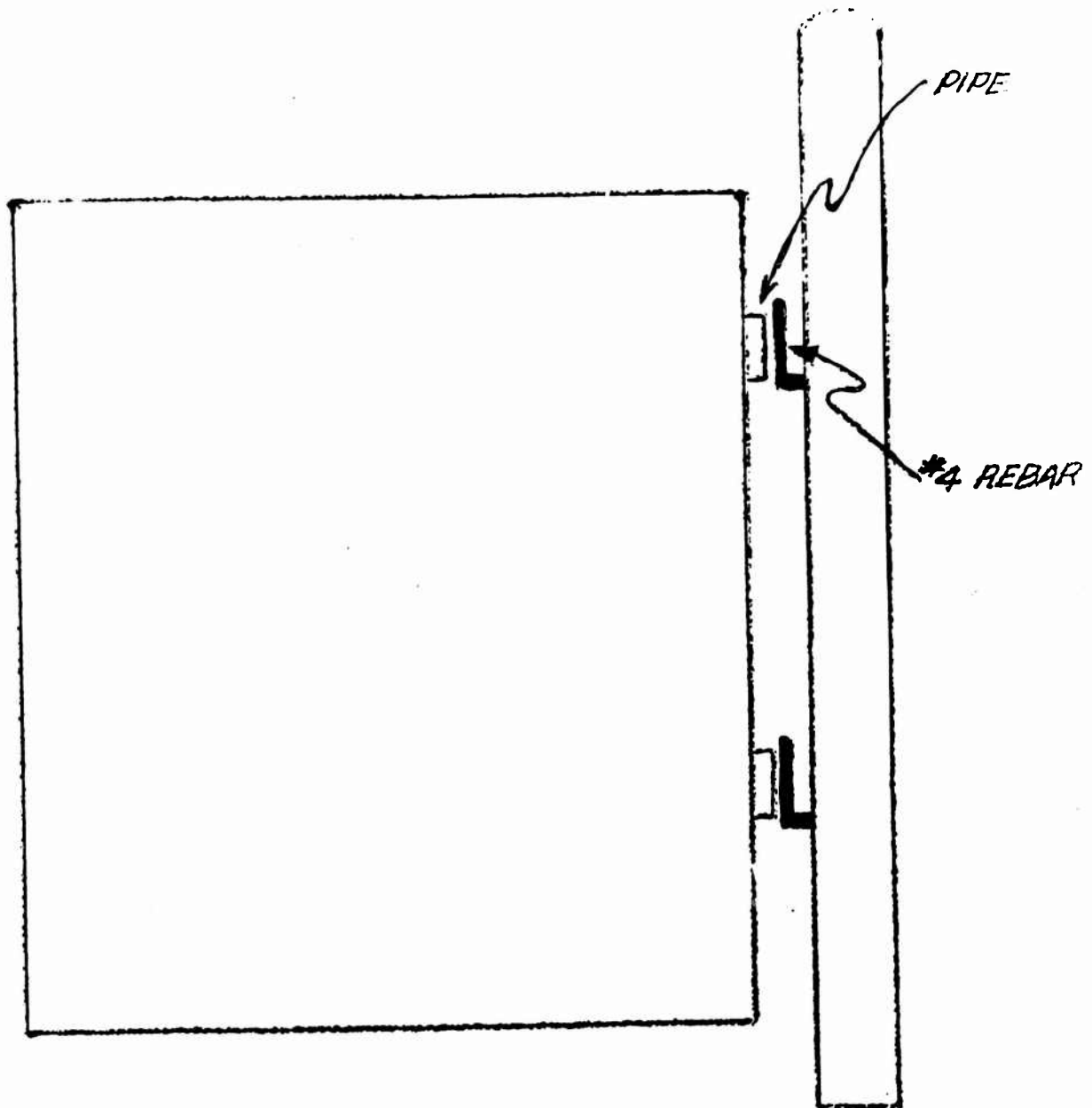
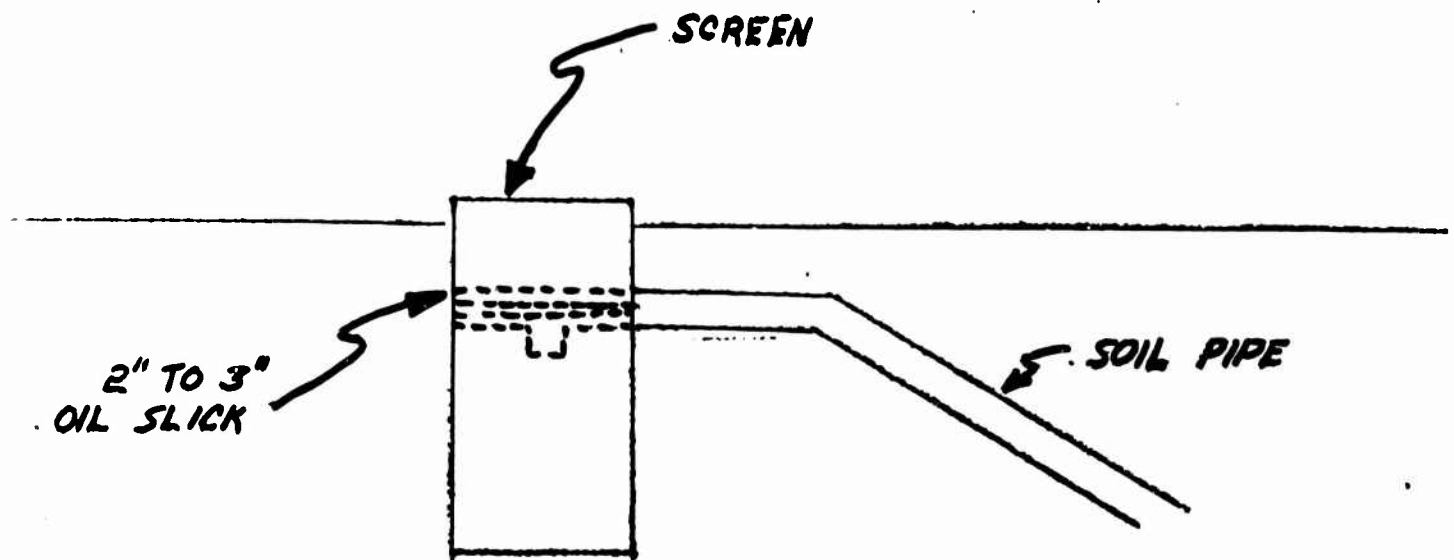


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